PRGF®-Endoret®
PLASMA RICH IN GROWTH FACTORS
APPLICATION IN ORAL SURGERY

btI
Biotechnology Institute
Human Technology
It is based on obtaining a preparation of proteins based on the patient's own blood; these proteins have biological activity, among which are the growth factors to stimulate and speed up tissue regeneration.

PRGF®-Endoret® speeds up the tissue healing and regeneration process and reduces both inflammation and the risk of infection or post-surgical complications. The use of PRGF®-Endoret® guarantees a noticeable improvement, absence of pain and quicker recovery.

One of the features that sets PRGF®-Endoret® technology apart from other platelet-rich plasmas (PRPs) is its versatility. It is possible to obtain, with one single extraction of the patient’s own blood, up to 4 different formulations with therapeutic potential depending on the level of coagulation and activation of the samples.

When we suffer an injury, the human body releases proteins (cellular signals) to stimulate the process of repairing that injury.

With PRGF®-Endoret® technology we manage to isolate from the patient’s blood the plasma that contains these proteins that speed up regeneration. Once a therapeutic dose is applied to the treatment area, the regeneration process of wounds is considerably accelerated.

To carry out this process, it is necessary to draw a small amount of blood from the patient. This blood is centrifuged and processed to obtain the proteins essential for regeneration. These proteins are applied to the area where tissue regeneration is necessary.

One of the features that sets PRGF®-Endoret® technology apart from other platelet-rich plasmas (PRPs) is its versatility. It is possible to obtain, with one single extraction of the patient’s own blood, up to 4 different formulations with therapeutic potential depending on the level of coagulation and activation of the samples.

How does PRGF®-Endoret® technology?

TISSUE REGENERATION

When we suffer an injury, the human body releases proteins (cellular signals) to stimulate the process of repairing that injury.

With PRGF®-Endoret® technology we manage to isolate from the patient’s blood the plasma that contains these proteins that speed up regeneration. Once a therapeutic dose is applied to the treatment area, the regeneration process of wounds is considerably accelerated.

To carry out this process, it is necessary to draw a small amount of blood from the patient. This blood is centrifuged and processed to obtain the proteins essential for regeneration. These proteins are applied to the area where tissue regeneration is necessary.

How can PRGF®-Endoret® technology help you?

Filtered liquid (collyrium)
This filtered liquid compound can be used to cultivate cells in the laboratory, including stem cells, or in fields such as ophthalmology.

Liquid
Liquid compound to wet implant or prosthesis surfaces and perform infiltrations in traumatology or dermatology.

Clot
The clot is a perfect framework for cells. It can be used to fill in defects and to form autologous and heterologous grafts.

Fibrin membrane
Elastic fibrin membrane, dense and hemostatic embedded with growth factors. It is one of the best biomaterials for regenerative medicine.
PRGF®-Endoret® TECHNOLOGY

A pioneering product
developed exclusively
by BTI Biotechnology Institute

Pioneering
PRGF®-Endoret® technology is the pioneer (Patent no EP1066838) in the development of specific protocols for tissue regeneration.

Supported by over 70 scientific publications
With PRGF®-Endoret® as the PRP backed by the largest number of scientific publications.

The only one with CE and FDA health Certifications
PRGF®-Endoret® technology is the only technique that holds the health certifications for each one of the following applications:

- Healing of venous ulcers.
- Consolidation of bone fractures and grafts.
- Fixation of prostheses (hip, knee, etc).
- Dental implant system.
- Injuries to the locomotor system (muscles, tendons, ligaments, joints).
- Treatment of skin burns, injuries and lesions.
- Skin rejuvenation.
- Regeneration of corneal lesions.

FEATURES

Versatility
PRGF®-Endoret® technology is a versatile system that makes it possible to create up to 4 different therapeutic formulations that adapt to the characteristics of each application.

Small volumes of blood
The volume of blood used in PRGF®-Endoret® technology is variable (from 9 ml) and adequate for each application, and is very efficient for obtaining its formulations. Other systems use large volumes of blood.

Just one centrifugation
PRGF®-Endoret® technology uses a simple protocol with a single centrifugation. Other technologies use a number of centrifugations that could cause premature platelet activation and even adverse effects.

Therapeutic dose
PRGF®-Endoret® technology uses concentrations of growth factors within the therapeutic window for the stimulation of tissue regeneration as has been demonstrated in in-vitro research, in animals or in clinical trials. Other products use concentrations outside this window, obtaining unpredictable results.

100% Autologous
PRGF®-Endoret® is the market’s first 100% autologous technology.

Without proinflammatory effects
In addition, PRGF®-Endoret® technology allows the non-inclusion of leucocytes in its formulation, thus avoiding their proinflammatory effects, as has already been demonstrated in numerous scientific publications. In fact, its protein content has an anti-inflammatory effect once applied to the tissue.

Without undesirable effects
In none of the treatments carried out during 15 years have any undesired effects been observed.
Pioneering technology with the most extensive experience in the market.

100% biocompatible, versatile and safe.

Control over its activation and use.

Simple and fast protocol. Only one centrifugation: just 8 minutes of centrifugation and 20 minutes of preparation.

Great clinical efficiency in the stimulation of tissue healing and regeneration, as has been described in a large number of international articles.

Does not contain leucocytes, avoiding their proinflammatory activity. Powerful bacteriostatic properties, as well as reducing pain.

PRGF®-Endoret® technology is the only one that holds European (CE mark) and American (FDA Approval) health certifications, both for the different applications of the product and for each and every one of the elements necessary for their application (health products).

Great versatility: multiple formulations and a large number of therapeutic applications.

Maximum SAFETY

In order to offer its patients the highest level of safety in its clinical practices, BTI’s products are made with materials that are biocompatible with the plasma which guarantee the absence of harmful effects in the short, medium and long term in the patient’s organism.

PRGF-Endoret technology is a sanitary product certified by health authorities. Other products, apparently similar, are made exclusively for research purposes (destined to the laboratory) for clinical use. Therefore, their harmlessness has not been guaranteed. (e.g.: contamination of the plasma through interaction with tubes of inadequate materials, use of laboratory centrifuges, use of activators not approved by legislation, etc.).

Better TRAINING

You will have the best technical support and the knowledge of the world’s top specialists in regeneration with growth factors.

BTI® Technology

Beware of imitations! PRGF®-Endoret® is the growth factor technology with the most extensive experience and the best results in the market.

BTI® Certifications

All the components of PRGF®-Endoret® Technology have received the CE certification from the European health authorities and therefore PRGF® System™ is authorised in Europe and America to obtain plasma growth factors and its application in a number of medical specialties.

List of PUBLICATIONS


BTI® Scan this QR code with your mobile phone and you can access all the information of PRGF®-Endoret® by BTI Biotechnology Institute.
APPLICATIONS OF PRGF®-Endoret® TECHNOLOGY

ORAL SURGERY

This technology developed by Dr Eduardo Anitua over 15 years ago was initially applied in the field of oral surgery, and is still considered a scientific reference today.

The use of PRGF®-Endoret® in this field of medicine offers many clinical advantages in daily practice with its use for the treatment of post-extraction defects,

PRGF®-Endoret® technology can be used in daily clinical practice in:

- Post-extraction areas
- Regeneration around implants
- Intraosseous defects
- Sinus elevations
- crestal expansion
- Vertical growth
- Treatment of periodontal defects

PRGF®-Endoret® technology can be used in daily clinical practice in:

15 years ago was initially applied in the field of oral surgery, and is still considered a scientific reference today.

The use of PRGF®-Endoret® technology developed by Dr Eduardo Anitua over 15 years ago was initially applied in the field of oral surgery, and is still considered a scientific reference today. This technology offers many clinical advantages in daily practice with its use for the treatment of post-extraction defects.

EXAMPLE OF ITS USE:

Irrigation of the area to be treated
Humectation
Bone graft
Fibrin Membrane

Irrigation of the area to be treated
Humectation
Bone graft
Fibrin Membrane

Humectation
The humectation of dental implant systems with PRGF®-Endoret® creates a biologically active nano-membrane that stimulates the migration, proliferation and differentiation of osteoprogenitor cells and their adhesion to the titanium surface.

Bone graft
The patient’s own bone collected during the milling along with the PRGF®-Endoret® clot form the autologous graft that allows us to improve osseointegration and fill in bone defects.

Fibrin Membrane
The sealing of the fibrous membrane with a powerful anti-inflammatory and bacteriostatic effect will make it easier to obtain good treatment results.

Healing OF WOUNDS

It has been proven that the use of the different formulations of PRGF®-Endoret® technology speeds up the regeneration and healing of wounds produced during surgery.

Quick vascularisation

DENTAL EXTRACTIONS

The local release of proteins and growth factors in the defect encourages the quick vascularisation of the area and bone regeneration. Elastic fibrin stimulates the fast epithelisation of adjacent soft tissues and avoids the use of flaps and grafts.

Osseointegration

SOFT TISSUES

The set of growth factors released by PRGF®-Endoret® stimulates epithelial regeneration. The sealing of grafts with autologous fibrin minimises the possibilities of contamination of the graft and favours faster epithelisation.

IMPLANT

The humectation of the implant surfaces with PRGF®-Endoret® creates a much more favourable biological environment for osseointegration, as a protein interface is achieved that favours cell migration over the new fibrin bridges created between the osseous wall and the implant surface.

Simplicity

PREPARATION AND MANIPULATION

The preparation protocol is simple and fast. The humectant and binding properties of PRGF®-Endoret® facilitate the handling, manipulation and stabilisation of different biomaterials and bone grafts.

Predictability

DENTAL IMPLANT SYSTEM

The use of PRGF®-Endoret® significantly increases the success rate in treatments with dental implant system. In addition, it reduces the periods between different surgery stages.

List of PUBLICATIONS

PRGF®-Endoret® DENTAL

PRGF®-Endoret® MATERIAL

PRGF®-Endoret® technology and all its component elements have been specifically designed by the department of R&D&I at Biotechnology Institute (BTI) to obtain Plasma Rich in Growth Factors (PRGF®-Endoret®) for its subsequent application to different specialties.

KIT START - PTD-0

Necessary components to start working with the PRGF®-Endoret® technology in oral and maxillofacial surgery:

CONTENT:
- KIT KMU15
- CD: digital timer unit.
- GT16: a rack for tubes of 9 ml.
- RPI40: a container for Ø40 mm grafts.
- RPI50: a container for Ø50 mm grafts.
- RPI60: a container for Ø60 mm grafts.

BTI DISPOSABLE KITS (ORAL SURGERY):
INCREASING BIOSAFETY AND REDUCING WORKING TIME

BTI offers users in the field of oral surgery, disposable kits with all needed materials for regular surgical treatments.

These disposable kits increase the biosafety of treatment in addition to facilitate handling of the various elements of PRGF®-Endoret® technology, reduce working time and avoid any sterilization process. They also meet the quality standards required by the European health authorities.

KIT - KMU15

This new plasma fractioning kit contains all disposable elements necessary for the PRGF®-Endoret® technique in oral and maxillofacial surgery. KMU15 kit contains 10 individual treatment sets containing each of them:

CONTENT IN EACH SET:
- 4 extraction tubes (TE9)
- 2 fractioning tubes (TF9)
- 1 activator ampoule.
- 1 activation syringe.
- 1 PTD.
- 1 elastic to draw blood.
- 1 butterfly set.

In addition, each KMU15 comes with an extra blister with spare parts as:
- 8 extraction tubes (TE9).
- 4 fractioning tubes (TF9).
- 2 activator ampoules.

10 SETS FOR INDIVIDUAL TREATMENTS + 1 EXTRA SET OF SPARE PARTS

*MORE INFORMATION ON NEXT PAGES
COMPONENTS

TECHNIQUE

PRGF®-Endoret®

- Single-use material

- BTI protocol

- 1 ml blister of calcium chloride
- Sterile, individually blistered
- Indicated for the activation of PRGF®-Endoret®, in a biologically controlled way

PRGF ACTIVATOR

- Capacity: 9 ml
- Sterile, with vacuum
- Endotoxin free
- Tubes approved for the preparation of PRGF®-Endoret® (Health product)

SYSTEM IV CENTRIFUGE

- Specific equipment designed and approved by the health authorities for the preparation of PRGF®-Endoret®, unlike laboratory centrifuges.
- Removable and sterilizable tube holder with capacity for 8 tubes of 5 or 9 ml.
- Dimensions: width: 36 cm. / height: 27 cm. (closed), 36 cm. (open) / depth: 43 cm.
- Weight: 15.4 kg

RACKS

- Specially designed to maintain asepsis of the plasma throughout the process.
- It has nine lateral windows that facilitate viewing the volume.
- With a protective cover to maintain asepsis during transport from one room to another.
- Capacity for 8 tubes of 9 ml

ACTIVATION RECIPIENTS

- To carry out the activation phase.
- Made with a biocompatible material.
- With a protective cover to guarantee the aseptic conditions of PRGF®-Endoret®.
- Available in 3 sizes (40, 50 and 60 ml). Autoclavable.

ACTIVATING SYRINGE

- Syringe for activation of PRGF®-Endoret® in a controlled manner.
- 0.5 ml capacity.
- Sterile, individually blistered and disposable.

PLASMATHERM H®

- Facilitates and speeds up the obtaining of different formations (clots, grafts, fibrin membranes).
- Maintains a constant temperature of 37°C +/- 1.
- Capacity for different recipient sizes (racks, dishes,...).
- Sterilizable removable trays.
- Dimensions: width: 30 cm. / height: 18 cm. / depth: 23 cm.
- Weight: 3,645 kg.

PLASMA TRANSFER DEVICE (PTD)

- Aspiration and fractionation system
- PRGF®-Endoret® single-use and disposable.
- Individually blistered and sterilized units.
- Does not need calibration or maintenance.
- Ergonomic: light and easy to use

EXTRACTION TUBES

- Syringe for activation of PRGF®-Endoret®
- Sterile, individually blistered.
- Indicated for the activation of PRGF®-Endoret®, in a biologically controlled way.

FRACTIONATION TUBES

- Capacity: 9 ml
- Sterile, with vacuum.
- Endotoxin free.
- Tubes approved for the preparation of PRGF®-Endoret® (Health product).

VENOJET VACUTAINER

- Blood extraction butterfly needles.
- Sterile, individually blistered.
- Closed system for blood extraction.
Biennial INTERNATIONAL SYMPOSIUM ON TRANSLATIONAL REGENERATIVE MEDICINE

A biennial event of a particularly translational nature that focuses its content on the application of new regenerative therapies to certain pathologies or to specific groups of patients, transferring the knowledge acquired in the laboratory to clinical applications.

This symposium focuses on dealing with current issues with a high level of thoroughness and interest from both a sanitary and a social point of view, including an excellent lineup of lecturers.

The work carried out in training, in addition to that carried out in the field of research, guarantee the effectiveness and biosafety of PRGF®-Endoret® Technology and allows its application for a large number of pathologies and functional alterations in very diverse fields of medicine such as oral implantology, skin regeneration, sports medicine, traumatology, degenerative diseases such as osteoarthritis and ophthalmology, among others.

It is of vital importance that the professionals that will apply this technology are adequately trained as it is a treatment that requires adequate installations, very strict protocols and qualified staff.

For this reason, BTI has an excellent team that gives this training, integrated by professionals with extensive clinical and teaching experience and which are part of a multidisciplinary group, in addition to being pioneers in its development and holding the patent of the procedure.

Dr. Maurice Salama (USA)
“Since starting to incorporate Dr. Anitua’s PRGF®-Endoret® protocol to my clinical regenerative cases over 6 years ago my results have been exceptional. It has assisted me in both tissue and bone regeneration with minimal post-op complications and higher success rates.”

Dr. Babak Saidi (GER)
“PRGF®-Endoret® revolutionised my pre-operation protocol for implant patients. Not only does it improve the alveolus and the soft tissue, it also makes it easier to create grafts to be used for example for a sinus elevation or for lateral bone augmentation. Even the patients’ reaction towards the use of autologous growth factors is positive, since we avoid the use of exogenous materials. It is simple and efficient to prepare PRGF and it is a means of differentiation from other implantologists of our region.”

Dr. Michael Pikos (USA)
“The use of autologous platelet secreted growth factors (PRGF) in my practice for the past 9 years has allowed me to take advantage of the outstanding accelerated wound healing characteristics of this impressive biotechnology with regard to my bone and soft tissue grafting procedures. I continue to be impressed with this incredible technology and encourage its use by all of my colleagues.”

Dr. Hiroyasu Tsukahara (JAPAN)
“PRGF®-Endoret® has given me a big advantage for past 5 years in all my surgery, not only for implant surgery but also for other treatments such as periodontal disease. It accelerates wound healing and regenerative process of bone and soft tissue without any side effect. I would also add as my opinion this simple protocol is remarkable advantage in field of the practice.”

All the information at www.bti-biotechnologyinstitute.com

You can find all the information you need at www.bti-implant.com. We hope that it can become your website of reference, where in addition to providing content that is updated on a daily basis, it can be used as a tool to encourage two-way communication. Discover the BTI web experience.